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PATENT
Attorney Docket No. 08009.0008

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
Toshiki MAEDA et al.)
Application No.: 10/715,525) Group Art Unit: 1745
Filed: November 19, 2003) Examiner: Rhee, J.
For: ACTIVE MATERIAL FOR) Confirmation No.: 4709
POSITIVE ELECTRODE OF LITHIUM)
SECONDARY BATTERY)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

REPLY BRIEF UNDER 37 C.F.R. § 41.41

Pursuant to 37 C.F.R. § 41.41, Appellants present this Reply to the Examiner's Answer dated June 29, 2007. If any fees are required in connection with the filing of this paper, Appellants request that the required fees be charged to Deposit Account No. 06-0916.

REMARKS

I. Status of Rejections

In response to the Appeal Brief filed March 15, 2007, the Examiner has maintained the rejection of claims 1-3 under 35 U.S.C. § 102(b) as anticipated by European Patent Application No. EP 0 944 125 to Sunagawa et al. (hereinafter "Sunagawa"). See Answer at 3.

II. Response to Examiner's Arguments in the Answer

The Examiner has failed to establish that Sunagawa teaches each and every claim limitations in claims 1 and 3 for the reasons set forth in the Appeal Brief filed March 15, 2007, as well as those below.

A. Materials of the same composition do not inherently have the same properties.

"In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. *Ex parte Levy*, 17 USPQ 2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). In addition, the fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ 2d 1955, 1957 (Fed. Cir. 1993)." See M.P.E.P. §2112.

The Examiner acknowledged Sunagawa's failure to teach that "according to the Rietveld analysis, the Li site occupancy rate for the Li sites in the crystal of the lithium-nickel composite oxide is 98% or greater." See Answer at 4. The Examiner maintains,

however, “once a reference teaching product appearing to be substantially identical is made in the basis of a rejection, and the examiner presents evidence or reasoning to show inherency, the burden shifts to the appellant to show an unobvious difference. MPEP 2112 Section V.” See Answer at 4.

Appellants submit that, as a initial matter, the Examiner based the theory of inherency solely on the apparent identity of the composition of the active material described in Sunagawa with that of the present application. No other evidence or reasoning has been presented to show inherency. On the contrary, Appellants have carried the burden of showing unobvious differences by demonstrating that although the comparative examples utilize an identical composition to the examples of the invention, comparative examples 1-3 have Li site occupancy rates of less than 98%. See Table 1 of the specification and Appeal Brief of March 15, 2007 at 13. Therefore, Appellants have positively demonstrated that the Li site occupancy rates of compounds with identical composition are not inherently at or greater than 98%.

B. The composition is only one of the factors that determines the properties of the active materials.

Sunagawa obtained composite oxides by simply mixing the raw material at certain ratios and baking the mixtures. See Sunagawa paragraph [0024]. Appellants have pointed out in the specification that “when the Li site occupancy rate becomes greater than 98%, there is not good correlation with initial capacity, so it is necessary to look at the relationship with other parameters for battery characteristics.” See Specification at 8, lines 10-18.

The average particles size of the secondary particles and the change in the surface area of the specific surface area are among the parameters that affects the properties of the active material other than its composition. See Specification pages 8 to 11. Furthermore, at least some of the differences in the properties of the active materials of the same composition stem from the different processing conditions. Such processing conditions may include the concentration of nickel in the crystallization process (see Specification, paragraph bridging pages 10 and 11) and the sintering temperature (see Specification, last paragraph at page 12), etc.

Therefore, in addition to the composition, many other factors contribute to the properties of the active material. The Examiner has erroneously asserted inherency by relying solely on the composition, while ignoring other factors affecting the properties of the active material.

C. The washing process is used to verify certain properties.

The Examiner alleged that the washing process is “an intended used,” therefore does “not differentiate the claimed article from a prior art article satisfying the claimed structural limitations.” See Answer at 4, last paragraph. Appellants submit that the washing process is carried out, at least in part, to verify the properties of the secondary particles.

As disclosed in the specification, properties revealed by the washing process include the amount of impurities adhering to the surface of the secondary particles and the size of the primary particles that forms the secondary particles. See Specification at page 9, lines 25 to page 10, line 11. A small difference in the specific surface area

before and after the washing process indicates less impurities and primary particles of size larger than a specified value, and vice versa. *Id.* Therefore, the difference in the specific surface area before and after the washing process is a limitation in connection with the property of the active material, not “an intended use.”

D. Sunagawa does not discuss, recognize, or teach that a difference in the specific surface area of the active material before and after the washing process is a parameter affecting the properties of the active material.

Appellants have discovered that the difference in the specific surface area of active material before and after the washing process affects the initial capacity for the resulting lithium secondary battery. See Specification, paragraph bridging pages 10 and 11 as well as Table 1. Appellants have further determined that the value of this difference should be less than or equal to $1.07 \text{ m}^2/\text{g}$. See Specification, paragraph bridging pages 10 and 11 as well as claim 1.

Sunagawa, on the other hand, did not disclose any washing process, how such a process may change the specific surface area of the active material, what such changes may indicate as the property of the active material, or how such a change may effect the initial capacity of the resulting battery. Sunagawa simply failed to recognize, much less taught the difference in the specific surface area of active material before and after the washing process as a parameter affecting the properties of the active material.

The Examiner alleges that “since ... the difference could be zero m^2/g therefore, Sunagawa does not need to disclose a difference between the specific area of the active material before the washing process and after the washing process.” See Answer at 5. Appellants submit that without subjecting the active material to a washing

process, Sunagawa could not have known or have taught the difference in the specific surface area of the active material before and after the washing process. Without teaching each and every element in the claims, Sunagawa cannot anticipate the pending claims 1 and 3.

Conclusion

In view of the foregoing, Appellants respectfully submit that Sunagawa does not anticipate the subject matter of the pending claims, and request that the outstanding §102(b) rejection be reversed and withdrawn.

Respectfully submitted,

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Dated: August 29, 2007

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